

CLAIMS:

1. An apparatus for treating comminuted meats, the apparatus including:
  - (a) a contact container;
  - (b) a pH increasing material inlet in the contact container;
  - (c) a supply of ammonia-based pH increasing material connected to the pH increasing material inlet;
  - (d) a further comminuting device connected to receive comminuted meat from the contact container; and
  - (e) a pump operatively connected to pump comminuted meat from the contact container to the comminuting device.
2. The apparatus of claim 1 wherein the contact container comprises a conduit through which the comminuted meat is displaced.
3. The apparatus of claim 1 further including a number of additional pH increasing material inlets into the contact container, each additional pH increasing material inlet being operatively connected to the supply of ammonia-based pH increasing material to facilitate the flow of ammonia-based pH increasing material into the contact container.
4. The apparatus of claim 1 wherein the further comminuting device comprises a grinder.

- 21 5. The apparatus of claim 1 further including an initial comminuting device operatively  
22 connected to form an initial comminuted meat and transfer the initial comminuted meat  
23 into the contact container.  
24
- 25 6. The apparatus of claim 5 wherein the initial comminuting device comprises a grinder  
26 having a first grind size and wherein the further comminuting device comprises a grinder  
27 having a second grind size, the second grind size being less than the first grind size.  
28
- 29 7. The apparatus of claim 5 wherein the initial comminuting device comprises a grinder  
30 having a grind size in the range of approximately one-half (1/2) inch to approximately  
31 three-eighths (3/8) inch and wherein the further comminuting device comprises a grinder  
32 having a grind size of no more than approximately three sixteenths (3/16) inch.  
33
- 34 8. The apparatus of claim 1 wherein the pH increasing material inlet includes an opening  
35 into the contact container having a maximum dimension less than a minimum dimension  
36 of the ammonia contacting arrangement.  
37
- 38 9. The apparatus of claim 1 wherein the contact container includes a portion having a  
39 comminuted meat flow area defined between a first wall and an opposing second wall,  
40 and wherein the dimension between the first wall and second wall is no greater than a  
41 grind size associated with the comminuted meat.  
42

- 43 10. The apparatus of claim 9 wherein the pH increasing material inlet includes an opening  
44 into the contact container through one of the first wall or second wall.  
45
- 46 11. The apparatus of claim 1 wherein the further comminuting device comprises a bowl  
47 chopper.  
48
- 49 12. An apparatus for treating comminuted meats, the apparatus including:  
50 (a) a contact conduit having an inlet opening at a first end and an outlet opening at a  
51 second end;  
52 (b) a pH increasing material inlet in the contact conduit;  
53 (c) a supply of ammonia-based pH increasing material connected to the pH increasing  
54 material inlet;  
55 (d) a further comminuting device connected to receive material displaced from the  
56 contact conduit through the outlet opening thereof; and  
57 (e) a displacement device operatively connected to the inlet opening of the contact  
58 conduit to facilitate the displacement of comminuted meat into the contact conduit  
59 through the inlet opening and through the contact conduit from the inlet opening  
60 to the outlet opening.  
61
- 62 13. The apparatus of claim 12 further including an inlet conduit operatively connecting the  
63 displacement device to the inlet opening of the contact conduit and an outlet conduit

operatively connecting the outlet opening of the contact conduit and the further  
comminuting device.

14. The apparatus of claim 13 further including an initial comminuting device operatively  
connected to form an initial comminuted meat and supply the initial comminuted meat to  
the displacement device.

15. The apparatus of claim 14 wherein the initial comminuting device comprises a grinder  
having a first grind size and wherein the further comminuting device comprises a grinder  
having a second grind size, the second grind size being less than the first grind size.

16. The apparatus of claim 15 wherein the initial comminuting device comprises a grinder  
having a grind size in the range of approximately one-half (1/2) inch to approximately  
three-eighths (3/8) inch and wherein the further comminuting device comprises a grinder  
having a grind size of no more than approximately three sixteenths (3/16) inch.

17. An apparatus for treating comminuted meats, the apparatus including:

- (a) a contact container;
- (b) a pH increasing material inlet in the contact container;
- (c) a supply of ammonia-based pH increasing material connected to the pH increasing  
material inlet; and
- (d) a further comminuting device; and

(e) a material transfer arrangement for transferring comminuted meat from the contact container to the further comminuting device.

18. The apparatus of claim 17 wherein the conveyance arrangement includes an outlet conduit connected to an outlet opening of the contact container and extending to an inlet hopper of the further comminuting device.

19. The apparatus of claim 18 wherein the contact container comprises a contact conduit through which a comminuted meat may be displaced from an inlet opening to the outlet opening.

20. The apparatus of claim 19 wherein:

- (a) the contact conduit includes a portion having a comminuted meat flow area defined between a first wall and an opposing second wall;
- (b) the dimension between the first wall and second wall is no greater than a grind size associated with the comminuted meat; and
- (c) a pH increasing material inlet is located in one of the first wall or second wall.